

## **STRATEGIC GOAL 3: ENHANCE PROTECTION AND SAFETY OF THE NATION'S AGRICULTURE AND FOOD SUPPLY**

USDA has unique and critical responsibilities to help ensure the safety of the U.S. food and fiber supply chain and the security of the U.S. agricultural production system. The Department will continue to assess current systems and develop countermeasures against threats to farms and ranches, in coordination with the private sector, other Federal agencies, and State governments. Research programs are essential to an effective U.S. agricultural biosecurity program to develop methods of early detection, rapid and accurate assessment, and immediate responses that prevent spread and control harmful agents. USDA facilities and operations must also be secure from external and internal threats.

### **Objective 3.1: Reduce the Incidence of Foodborne Illnesses Related to Meat, Poultry, and Egg Products in the U.S.**

USDA will improve public health by further reducing the prevalence of foodborne hazards from farm to table, striving to become a model for all other public health institutions. Emerging pathogens and the dynamic nature of foodborne hazards mean that our food safety systems must be continually assessed and updated in order to maintain consumer confidence in our food supply. The assessment of public health issues and associated policies for addressing them will be based on sound scientific principles. We will assure the American public of the safety of meat, poultry, and egg products through effective management and implementation of regulatory actions. To do this, we will strengthen domestic and international regulatory strategies developed through a cooperative approach that integrates research, public health regulation and education. We will also broaden our collaboration with other Federal agencies, States, and international cooperators on regulatory actions and education programs addressing all aspects of food safety.

#### **Performance Measures**

Enhance public health in the United States by implementing modernized and risk-based food safety inspection of meat, poultry, and egg products.

*Baseline:* 2002 — A hazard-based work assignment system is not used to allocate Federal food safety inspection resources in processing establishments.

*Target:* 2007 — A hazard-based work assignment system will be used to allocate Federal food safety inspection resources in all processing establishments (100%).

Reduce the prevalence of *Salmonella* on raw meat and poultry products.

*Baseline:* 2002 — Prevalence of *Salmonella* on broiler chickens was 11.6%.

*Target:* 2007 — Prevalence of *Salmonella* on broiler chickens reduced to 10.4%.

*Baseline:* 2002 — Prevalence of *Salmonella* on market hogs was 4.3%.

*Target:* 2007 — Prevalence of *Salmonella* on market hogs reduced to 3.9%.

*Baseline:* 2002 — Prevalence of *Salmonella* on ground beef was 2.8%.

*Target:* 2007 — Prevalence of *Salmonella* on ground beef reduced to 2.5%.

Reduce the prevalence of *Listeria monocytogenes* in ready-to-eat meat and poultry products.

*Baseline:* 2002 — Samples testing positive for *Listeria monocytogenes* was 1.02%.

*Target:* 2007 — Samples testing positive for *Listeria monocytogenes* reduced to 0.91%.

Develop and transfer to USDA agencies and the private sector systems that rapidly and accurately detect, identify, and differentiate the most critical and economically important foodborne pathogenic bacteria and viruses.

*Baseline:* 2002 — Achieved various stages of sequencing the full genome DNA for several different pathogens which will be used to develop these systems.

*Target:* 2007 — Will develop new systems for detecting foodborne illness-causing bacteria and pathogens, including strains of *Campylobacter*, *Clostridium*, *E. coli* 0157:H7, Hepatitis A, *Listeria*, Norwalk viruses, and *Salmonella*.

### Actionable Strategies

USDA must continue to increase investments in the infrastructure that protect the integrity of the food and agricultural system. We need enough people and laboratories, supported by modern equipment, to ensure that our scientific and regulatory activities are up to the challenges posed by emerging pathogens and other animal and foodborne hazards. Future actions will:

- Require scientific validation and ongoing verification by industry of Hazard Analysis and Critical Control Point (HACCP) systems.
- Leverage USDA and industry resources to expand risk-based product testing and initiate environmental sampling programs for *Listeria monocytogenes* in establishments that produce certain ready-to-eat products.
- Strengthen procedures for evaluating and auditing foreign inspection systems and State inspection programs.
- Recruit, train, and deploy an inspection workforce with enhanced scientific skills and public health expertise.
- Recruit, retain, graduate, and place the next generation of research scientists, educators, and technicians in the food and agricultural sciences.
- Leverage investments in the infrastructure across USDA and with other Federal departments to reduce redundancy and improve data sharing.
- Provide the general public with food safety and biosecurity information and education through expanded outreach programs that address all aspects of food safety, including safe handling practices, microbiological testing and innovative food safety technologies.
- Work with Federal food safety agency partners to evaluate available foodborne illness data related to meat, poultry, and egg products and to develop more accurate measures of the effectiveness of regulatory strategies in reducing preventable foodborne illness.
- Conduct food safety research with the goal of providing a science-based, epidemiological approach to food safety that is valuable to industry and policy makers.
- Sponsor research to characterize the sequence, structure, and function of genes.
- Conduct education and outreach to improve biosecurity, food safety, food security, and nutritional content.
- Support scientifically sound programs for mapping microbiological genomic data to provide the base for research and diagnostic work.
- Expand research, modeling, and rigorous risk assessments that identify emerging, potentially high-risk threats to public food safety.

## Objective 3.2: Reduce the Number and Severity of Agricultural Pest and Disease Outbreaks

Safeguarding America's animal and plant resources from invasive pests and diseases is essential to enhancing the agricultural trade that underlies much of America's prosperity and to housing, feeding, and clothing our Nation. To keep crop and animal pests and diseases out of the U.S. and to manage those inside our borders, USDA sponsors prevention activities to reduce the number of pest and disease outbreaks and coordinates effective pest and animal disease emergency response systems to reduce the severity of pest and disease outbreaks. We partner with Federal and State agencies, industries, and professional organizations to develop and maintain effective emergency response systems to detect, respond to, and eliminate outbreaks of invasive pests and diseases. We also partner with other nations and Federal agencies in research and operations that proactively prevent such outbreaks.

### Performance Measures

Protect against accidental and intentional threats to farm livestock, poultry, plants, and crops.<sup>1</sup>

*Baseline:* 1999 — 4.2% of international air travelers did not comply with restrictions to prevent entry of pests and diseases.

*Target:* 2007 — 3% of air travelers will not comply with restrictions (reductions will focus on high-risk pathways).

Reduce the number and severity of pest and disease outbreaks in the U.S. by ensuring that States and territories meet standards for State emergency management systems for animal health.

*Baseline:* 2000 — No States and territories met the standards.

*Target:* 2007 — 50 States and 2 territories will meet the standards.

Increase the number of States that can provide necessary Federal diagnostic services for animal diseases.

*Baseline:* 2000 — 20 States have at least one laboratory certified to provide necessary Federal diagnostic services.

*Target:* 2007 — 28 States have at least one laboratory certified to provide necessary Federal diagnostic services.

Improve the capabilities of plant diagnostic laboratories.

*Baseline:* 2000 — There is no International Standard Operational Certification for plant diagnostic facilities.

*Target:* 2007 — There will be an International Standard Operational Certification in place and all 5 National Plant Pest and Disease Diagnostic Network Centers will be certified.

*Baseline:* 2002 — The 5 National Plant Pest and Disease Diagnostic Centers are connected and providing data to the National Agricultural Pest Information System (NAPIS) at Purdue University.

*Target:* 2007 — A plant diagnostic laboratory in each state will be connected to and providing data to NAPIS at Purdue University.

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<sup>1</sup> USDA will transfer its Agriculture Quarantine Inspection function to the Department of Homeland Security in March 2003.

Develop and release to potential users varieties and/or germplasm that are new or provide significantly improved (either through traditional breeding or biotechnology) characteristics enhancing pest or disease resistance.

*Baseline:* 2002 — Developed molecular diagnostics for classification of diseases that threaten economically significant plants, and established more effective technologies for selecting plants with disease resistance to Sclerotinia, downy mildew, rusts and exotic viral diseases.

*Target:* 2007 — Release a series of new or improved varieties or germplasm that exhibit enhanced disease resistance to Sclerotinia, downy mildew, rusts and exotic viral diseases.

### **Actionable Strategies**

USDA must continue to increase investments in the infrastructure that protect the integrity of the food and agricultural system. We need enough people and laboratories, supported by modern equipment, to ensure that our scientific and regulatory activities are up to the challenges posed by invasive pests and diseases. Future actions will:

- Strengthen procedures for evaluating and auditing foreign inspection systems and State inspection programs.
- Intensify research and education efforts to rapidly identify pests and diseases that enter the U.S.
- Increase scientific monitoring for a broader array of emerging agricultural pests and diseases.
- Develop, validate and deploy new identification devices that can rapidly detect pathogens and toxins threatening livestock, poultry, plants/crops and food, such as a rapid deployment automated mobile laboratory that can be operational anywhere in the nation.
- Conduct research and disseminate results on: the role of genes and proteins on the immune systems of animals and plants; microorganisms, pathogens and toxins that can contaminate foods; advanced molecular biological and immunological studies of the effects of pathogens on vulnerable animal species; and advanced diagnostics, protections, and treatments.
- Conduct research, education, and information transfer on transmission and epidemiology of animal and plant diseases to develop and rapidly apply strategies for controlling disease outbreaks.
- Develop rapid, economical, environmentally sound and humane methods of euthanasia for animals as well as large-scale disposal of animal carcasses should an emergency occur.
- Conduct research and education on effective real-time cleaning and disinfecting technologies to limit or contain the spread of infectious materials, and to isolate and contain potential disease outbreaks.
- Undertake research and education to support approval and licensing by the Environmental Protection Agency (EPA) of safe and effective disinfectants, tick and mite pesticides, insecticides, and other emergency compounds.

### **Key External Factors for Strategic Goal 3**

The introduction of hazardous substances—whether accidental or intentional—may pose a threat to human health and to the environment, making prevention, early detection, identification, and rapid control or eradication a vital challenge. Collaboration between the public and private sectors plays a large role in emergency preparedness.

In FY 2001-2002, USDA requested that the National Academy of Sciences and the National Advisory Committee on Microbiological Criteria for Food study the role of microbiological criteria and microbiological performance standards as part of an overall approach to improving food safety. As the results of these ongoing studies become available, USDA will be able to propose new regulatory strategies to reduce the prevalence of pathogenic bacteria that cause foodborne illness.